

ABSTRACT OF THE DISCLOSURE

A new and improved composite rotary steel drive shaft comprises a radially outer steel tubular member and a
5 radially inner carbon fiber tubular liner which is adhesively bonded upon the inner peripheral wall surface of the radially outer steel tubular member wherein the carbon fiber tubular liner is characterized by or exhibits a relatively high modulus of elasticity. As a result of the adhesive bonding of the
10 radially inner carbon fiber tubular liner upon the inner peripheral wall surface of the radially outer steel tubular member, the torsional stiffness properties of the resulting composite rotary steel drive shaft are dramatically increased to such a degree that high-performance, high-speed rotary operation of the same, within the range of ten thousand revolutions per minute (10,000 RPM), is enabled without the composite rotary drive shaft experiencing any undesirable deflections, or any detrimental vibrational resonance, as has been characteristic of conventional rotary drive shafts . In addition,
20 in view of the fact that the radially outer member of the composite rotary steel drive shaft comprises a radially outer steel tubular member, the resulting composite rotary steel drive shaft is considered to be a steel rotary drive shaft and is therefore acceptable to, and is able to be sanctioned by various professional automotive racing authorities.
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